

CERTIFICATE OF MAILING OR TRANSMISSION	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450, or is being facsimile transmitted to the United States Patent and Trademark Office on:	
1-2-08	<i>Amy Green</i>
Date	Signature
<i>Amy Green</i>	
Typed or printed name of person signing certificate	

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Re: Appellant(s): Kirk Johnson  
Application No.: 09/824,527  
Confirmation No.: 1065  
Title: METHOD AND APPARATUS FOR A MINIMALIST  
APPROACH TO IMPLEMENTING SERVER SELECTION  
Docket No.: 2762.2006-002

Sir:

Transmitted herewith is an Appeal Brief for filing in the subject application. The Appeal Brief is filed pursuant to the Notice of Appeal received by the U.S. Patent and Trademark Office on November 1, 2007

1. ☐ Appellant hereby petitions to extend the time for filing an Appeal Brief for [ ] month(s) from [ ] to [ ].
2. ☐ A [ ] month extension of time to extend the time for filing an Appeal Brief from [ ] to [ ] was filed on [ ] with payment of a \$[ ] fee.  
☐ Appellant hereby petitions for an additional [ ] month extension of time for filing an Appeal Brief from [ ] to [ ].
3. ☐ A Request for Oral Hearing before the Board of Patent Appeals and Interferences is being filed concurrently herewith.

## 4. Fees are submitted for the following:

<input type="checkbox"/>	Extension of Time for [    ] month(s)	\$ _____
<input type="checkbox"/>	Additional Extension of Time:	
	Fee for Extension      ([    ] mo.)	\$ _____
	Less fee paid          ([    ] mo.)	\$ _____
	Balance of fee due	\$ _____
<input type="checkbox"/>	Appeal Brief	\$ _____
<input type="checkbox"/>	Other _____	\$ _____
	<b>TOTAL</b>	<b>\$ _____</b>

## 5. The method of payment for the total fees is as follows:

- ☐ A check in the amount of \$[    ] is enclosed.
- ☐ Please charge Deposit Account No. 08-0380 in the amount of \$[    ].

Please charge any deficiency or credit any overpayment in the fees that may be due in this matter to Deposit Account No. 08-0380. A copy of this letter is enclosed for accounting purposes.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Mark B. Solomon  
Mark B. Solomon

Registration No.: 44,348  
Telephone: (978) 341-0036  
Facsimile: (978) 341-0136

Concord, MA 01742-9133

Dated: 1/2/08



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kirk Johnson

Application No.: 09/824,527

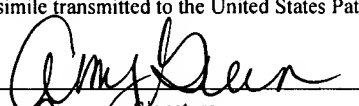
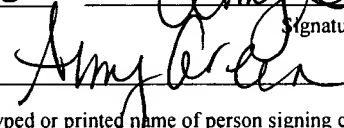
Group: 2143

Filed: April 2, 2001

Examiner: Joseph E. Avellino

Confirmation No.: 1065

For: METHOD AND APPARATUS FOR A MINIMALIST APPROACH TO  
IMPLEMENTING SERVER SELECTION

<b>CERTIFICATE OF MAILING OR TRANSMISSION</b>	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or is being facsimile transmitted to the United States Patent and Trademark Office on:	
1-2-08	
Date	Signature
	
Typed or printed name of person signing certificate	

**APPEAL BRIEF**

Mail Stop Appeal Brief Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted pursuant to the Notice of Appeal received in the U.S. Patent and Trademark Office on November 1, 2007, and in support of the appeal from the final rejection(s) set forth in the Office Action mailed on October 9, 2007. The fee for filing a brief in support of an appeal is enclosed.

I. **REAL PARTY IN INTEREST**

The real party in interest is Cisco Technology, Inc. Cisco Technology, Inc. is the Assignee of the entire right, title and interest in the subject application, by virtue of an Assignment recorded on July 10, 2001 at Reel 011981, Frames 0226-0229.

## II. RELATED APPEALS AND INTERFERENCES

Appellant, the undersigned Attorney, and Assignee are not aware of any related appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the this appeal.

## III. STATUS OF CLAIMS

Claims 1 through 51 and 61 through 89 have been finally rejected, and a copy appears in the Appendix of this Brief. Claims 1, 19, 35, 40, 45 and 47 were most recently amended in the Amendment filed on May 24, 2007. Claims 2-12, 15-18, 20-29, 32-34, 36-39, 41-44, 46, 49-51 appear as originally filed. Claims 52 through 60 were canceled. Claims 1 through 51 and 61 through 89 are being appealed herein.

## IV. STATUS OF AMENDMENTS

No Amendments have been filed subsequent to the Final Rejection dated October 9, 2007.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

### Claim 1

Claim 1 claims an aspect of the present invention that relates to a system for optimizing server selection for clients from among a plurality of servers in a packet communication network. The system comprises a plurality of servers for alternatively responding to client requests and a central server. The central server maintains server selection weights. In response to a client request, the central server provides a candidate server list of at least two candidate servers to a network node, other than the central server. The at least two candidate servers provided in the candidate server list are based on the server selection weights. The network node to which the candidate server list is provided is adapted to interrogate individual servers represented in the candidate server list. The central server receives feedback from the interrogated individual servers indicating service by the individual servers in response to client requests. The central server modifies the server selection weights based on the feedback.

Support for claim 1 may be found on page 3, line 12 - page 5, line 22 and FIG. 1 of Appellant's Specification as originally filed.

Claim 19

Claim 19 claims an aspect of the present invention that relates to a method for optimizing server selection for clients from among a plurality of servers in a packet communication network. In response to a client request for a server address, the method provides a candidate server list. The candidate server list is provided by a central server to a network node, other than the central server. The candidate server list provided includes at least two server addresses selected based on weights corresponding to the candidate servers. The network node to which the candidate server list is provided is adapted to interrogate individual servers represented in the candidate server list. The method feeds back service metrics to the central server from the interrogated individual servers corresponding to service provided by the respective servers and updates the weights based on the service metric.

Support for claim 19 may be found on page 3, line 12 - page 5, line 22 and FIG. 1 of Appellant's Specification as originally filed.

Claim 35

Claim 35 claims an aspect of the present invention that relates to a method performed by a central server in a packet communication network for providing a client with a list of possible optimal servers from among a plurality of servers also on the network. The method maintains weights corresponding to a plurality of servers. In response to receiving a client request from a client, the method selects a candidate server list of at least two candidate servers from among the servers represented by the weights. The method provides the at least two candidate servers selected to a network node, other than a network node selecting the candidate server list. The network node is adapted to interrogate individual servers represented in the candidate server list. The method receives feedback from the interrogated individual servers related to service by the servers for maintaining the weights.

Support for claim 35 may be found on page 9, line 28 - page 12, line 21 and FIG. 2 of Appellant's Specification as originally filed.

Claim 40

Claim 40 claims an aspect of the present invention that relates to a computer program product comprising a computer readable medium for storing data and a set of computer program

instructions embodied on the computer readable medium. The set of computer program instructions maintains weights related to service provided by servers. In response to receiving a request from a client, the set of computer program instructions selects a candidate server list of at least two candidate servers from among the servers represented by the weights. The at least two candidate servers are selected based on the weights. The set of computer program instructions provides the candidate server selection list to a network node, other than a network node executing the instructions to select the candidate server list. The network node to which the candidate server selection list is provided is adapted to interrogate individual servers represented in the candidate server list. The set of computer program instructions receives feedback from the interrogated individual servers to maintain the weights.

Support for claim 40 may be found on page 9, line 28 - page 12, line 21 and FIG. 2 of Appellant's Specification as originally filed.

#### Claim 45

Claim 45 claims an aspect of the present invention that relates to an apparatus for providing a client with a list of possible optimal servers from among a plurality of servers also on the network. The apparatus comprises (i) means for maintaining weights based on service by servers, (ii) means for receiving a request from a client, (iii) means for selecting a candidate server selection list of at least two candidate servers based on the weights from among the servers represented by the weights, and (iv) means for providing the candidate server selection list to a network node other than a network node including the means for selecting the candidate server selection list. The network node to which the candidate server list is provided is adapted to interrogate individual servers represented in the candidate server list. The apparatus also comprises means for receiving feedback from the interrogated individual servers.

Support for claim 45 may be found on page 19, lines 10-24 and FIG. 7 of Appellant's Specification as originally filed.

#### Claim 47

Claim 47 claims an aspect of the present invention that relates to an apparatus for providing a client on a network with a list of possible optimal servers from among a plurality of servers also on the network. The apparatus comprises one or more processors coupled to

memory and an interface coupled to the one or more processors and a network. The memory stores weights related to service provided by a plurality of servers. The one or more processors executes a computer program to: (i) maintain the weights, (ii) receive a request from a client, and (iii) in response to the request, select a candidate server list of at least two candidate servers from among the servers represented by the weights. The interface (i) provides the candidate server list to a network node, other than a network node with the computer program to select a candidate server list, and (ii) receives feedback from the interrogated individual servers. The network node to which the candidate server list is provide is adapted to interrogate individual servers represented in the candidate server list,

Support for claim 47 may be found on page 19, lines 10-24 and FIG. 7 of Appellant's Specification as originally filed.

#### VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-7, 11-16, 18-24, 28-30, 32, 33, 35, 36, 38, 39-41, 43-48, 50, 51, 62, 64, 66, 68, 70, 72, 74-79, and 84-89 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over Primak et al. (Pub. No. 2001/0039585), hereinafter "Primak" in view of Logan et al. (USPN 6,578,066), hereinafter "Logan."

Claims 17, 34, and 80 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Primak in view of Logan in view of Meek et al. (USPN 6,539,426), hereinafter "Meek."

Claims 8-10, 25-27, 37, 42, 49, 73, and 81-83 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Primak in view of Logan in view of Guenthner et al. (USPN 6,134,588), hereinafter "Guenthner."

Claims 61, 63, 65, 67, 69, and 71 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Primak in view of Logan in view of Lin (USPN 6,298,451).

VII. ARGUMENT

The § 103 rejection of claims 1-7, 11-16, 18-24, 28-30, 32, 33, 35, 36, 38, 39-41, 43-48, 50, 51, 62, 64, 66, 68, 70, 72, 74-79, and 84-89.

Claim 19

The Primak and Logan combination teaches away or at the very least does not teach Appellant's network node, other than a central server, participating in choosing which servers are candidate servers to be: (i) included in a candidate server list provided by the central server and (ii) interrogated by the network node. Appellant's claim 19 clearly recites "the candidate server list including at least two server addresses selected based on weights," and "updating the weights based on [] service metrics." Claim 19 further recites "[the] service metrics...corresponding to service provided by the respective servers." As such, which servers are candidate servers and included in the candidate server list, and thus, interrogated are based or otherwise depend on service provided by the servers.

The service provided by the servers, in turn, depends on the network node selecting a preferred server to provide service. In this way, Appellant's claim 19 goes beyond simply providing a network node, other than a central server, with choices to choose from, but involves the network node, other than the central server, participating in choosing which choices are provided.

In contrast, the Primak and Logan combination merely describes a DNS server consulting an ordered list of servers to select a best server. Appellant's respectfully submit that the combination's ordered list is not the same as Appellant's candidate server list. In the combination's ordered list, servers order themselves based on how each server is preferred by the other servers. A server preferred by the most number of other servers is ordered first, while a server preferred by the least number of other servers is ordered last. *See* Logan, column 7, line 53-column 8, line 56.

In fact, because the Primak and Logan combination describes servers ordering themselves, the combination teaches away from Appellant's network node, other than the central server, participating in choosing which servers are candidate servers and included in the candidate server list, as claimed in claim 19. Furthermore, because the Primak and Logan



combination describes a DNS server deciding whether to transmit to all or a subset of DNS agents, the combination teaches away from Appellant's network node, other than a central server, participating in choosing which servers are candidate servers to be interrogated. *See* Primak, paragraph [0025] (DNS server transmitting a DNS query to all or a subset of DNS agents based on location of the client or server cluster zone).

Accordingly, Appellant respectfully submit that Primak and Logan either alone or in combination neither teach nor suggest Appellant's claim 19. Appellant respectfully requests that claim 19 be allowed. Claims 19, 40, and 45 recite similar elements, and, as such, should be allowed for similar reasons. Claims 1, 35, and 47 recite, from a different perspective, elements similar to those recited in claims 19, 40, and 45, and, as such, should be allowed for similar reasons.

Claims 20-24, 64, and 85 depend from claim 19; claims 41 and 44 depend from claim 40; claim 46 depends from claim 45, and, as such, these claims should be allowed for the same reasons as the claims from which they depend. Claims 2-7 and 62 depend from claim 1; claims 36, 38, 39, 66, and 86 depend from claim 35; claims 48, 50, 51, 72, 74-79, and 89 depend from claim 47, and, as such, these claims should be allowed for the same reasons as the claims from which they depend.

The § 103 rejection of claims 17, 34, and 80.

In Appellant's claim 34, a network node, other than a central server, participates in choosing which servers are candidate servers to be interrogated and interrogates those candidate servers chosen. In this way, Appellant's claim 34 goes beyond simply interrogating servers, but involves the network node, other than the central server, participating in choosing which choices are interrogated.

In contrast, the Primak, Logan, and Meek combination merely describes a client testing servers provided in an ordered list of servers. Appellant's respectfully submit that the combination's ordered list is not the same as Appellant's candidate server list. In the combination's ordered list, servers order themselves based on how each server is preferred by the other servers. *See* Logan, column 7, line 53-column 8, line 56. The combination tests a server

preferred by the most number of other servers first and tests a server preferred by the least number of other servers is tested last.

In fact, because the Primak, Logan, and Meek combination describes testing servers which have ordered themselves, the combination teaches away from Appellant's network node, other than the central server, participating in choosing which servers are candidate servers to be interrogated and interrogating those candidate servers chosen by the network node.

Accordingly, Appellant respectfully submits that Primak, Logan, and Meek either alone or in combination neither teach nor suggest Appellant's claim 34. Appellant respectfully requests that claim 34 be allowed.

Claims 17, 34, and 80 recite similar elements, and, as such should be allowed for similar reasons.

The § 103 rejection of claims 8-10, 25-27, 37, 42, 49, 73, and 81-83.

#### Claim 25

In Appellant's claim 25, in addition to interrogating server addresses selected based on weights, a network node also interrogates "servers represented by the weights beyond the number of server addresses selected based on the weights." Emphasis added. In this way, Appellant's claim 25 more than just selects a server from a list of servers to interrogate, but interrogates all candidate servers in a candidate server list, including extra, randomly selected servers.

In stark contrast, the Primak, Logan, and Guenther combination merely describes selecting a server from a random or ordered list of servers. *See* Guenther: column 5, lines 44-66 (Selecting a random IP address from a random list and re-selecting a random list element whenever a new host connection is established improves Web browser access to Web servers in a computer network and enables servers to be easily scaled and load-balanced.). By selecting a single, random entry from a random list (or a single, first entry from an ordered list), the Primak, Logan, and Guenther combination is no more burdened when the single entry is selected from a list of many or just one extra, random entry.

In fact, because the Primak, Logan, and Guenther combination describes selecting just one entry from a random list randomly or the first entry from an ordered list, the combination

teaches away from further burdening a network node with interrogating extra, randomly selected servers that are beyond servers selected based on weights, as claimed in Appellant's claim 25.

Accordingly, Appellant respectfully submits that Primak, Logan, and Guenthner either alone or in combination neither teach nor suggest Appellant's claim 25. Appellant respectfully requests that claim 25 be allowed.

Claims 8, 25, 37, 42, 49, 73, and 81 recite similar elements, and, as such, should be allowed for similar reasons.

Claims 9 and 10 depend from claim 8; claims 26 and 27 depend from claim 25; claim 82 and 83 depend from claim 81, and, as such, these should be allowed for the same reasons as the claims from which they depend.

The § 103 rejection of claims 61, 63, 65, 67, 69, and 71.

#### Claim 63

In Appellant's claim 63, a client participates in choosing which servers are candidate servers to be included in a candidate server list and interrogated. In this way, Appellant's claim 25 involves more than a client selecting from choices provided, but further involves the client participating in choosing which choices are provided from which to choose.

In contrast, the Primak, Logan, and Lin combination merely describes a client determining whether a directory server has provided information sufficient to make a choice. In the combination, the directory server providing sufficient information controls or otherwise dictates whether the client can and does make a choice as contrasted with Appellant's claim 63.

In fact, the Primak, Logan, and Lin combination teaches away from a client participating in choosing which choices are provided to the client, as claimed in Appellant's claim 63. *See* Lin, column 5, lines 7-25 and lines 50-58 (To select a task server suitable to a client's needs, the client determines whether information received from directory server is sufficient to make a choice. If insufficient to make a choice, the client determines whether other directory servers exist that can provide the desired information so that the client can make a choice. If other directory servers do not exist, in order to make a choice the client requests a resource manager develop the desired information.).

Accordingly, Appellant respectfully submits that Primak, Logan, and Lin either alone or in combination neither teach nor suggest Appellant's claim 63. Appellant respectfully requests that claim 63 be allowed. Claims 61, 63, 65, 67, 69, and 71 recite similar elements, and, as such, should be allowed for similar reasons.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Mark B. Solomon  
Mark B. Solomon  
Registration No.: 44,348  
Telephone: (978) 341-0036  
Facsimile: (978) 341-0136

Concord, MA 01742-9133

Dated: 1/2/08

CLAIMS APPENDIX

1. A system for optimizing server selection for clients from among a plurality of servers in a packet communication network, the system comprising:
  - a plurality of servers for alternatively responding to client requests;
  - a central server that maintains server selection weights, and, based on the weights, provides in response to a client request a candidate server list of at least two candidate servers to a network node, other than the central server, adapted to interrogate individual servers represented in the candidate server list, the central server receiving feedback from the interrogated individual servers indicating service by the individual servers in response to client requests and modifying the server selection weights based on the feedback.
2. The system according to Claim 1 further comprising a DNS server, the DNS server:
  - receives the client request from the client; and
  - based on the client requests, forwards the client requests to the central server.
3. The system according to Claim 2, wherein the DNS server interrogates candidate servers in the candidate server list.
4. The system according to Claim 3, wherein the DNS server selects a candidate server based on the interrogation.
5. The method according to Claim 4, wherein the DNS server:

indicates to the selected candidate server that it has been selected to provide service to the requesting client; and

returns the address of the selected candidate server to the client.

6. The system according to Claim 3, wherein the DNS server returns to the requesting client the address of the first server to respond to the interrogation.
7. The system according to Claim 6, wherein the DNS server transmits to the client a redirection packet to inform the selected server of being selected.
8. The system according to Claim 1, wherein the candidate server list includes extra, randomly selected, candidate servers beyond the candidate servers selected based on the weights.
9. The system according to Claim 8, wherein the extra, randomly selected, candidate servers are a fixed percentage beyond the number of servers selected based on the weights.
10. The system according to Claim 8, wherein the extra, randomly selected, candidate servers are a fixed number beyond the number of server addresses selected based on the weights.

11. The system according to Claim 1, wherein each candidate server in the candidate server list is unique from each other candidate server in the list.
12. The system according to Claim 1, wherein the feedback occurs according to at least one of the following: number of times the respective server is selected, duration from last feedback, time of day, or requested event.
13. The system according to Claim 1, wherein the weights are based on bias factors to reduce convergence time, the bias factors including at least one of: a number of times selected, moving average based on a specified amount of time, historical count information, time of day, time of year, calendar event, or geographical location.
14. The system according to Claim 1, wherein the weights sum to one.
15. The system according to Claim 1, wherein the central server includes vectors of server selection weights for subsets of clients.
16. The system according to Claim 1, wherein the central server includes multiple central servers organized as a distributed system.
17. The system according to Claim 1, wherein the client interrogates the candidate servers in the candidate server list to measure at least one of the following: network performance between the client and candidate server, server congestion, or server load.

18. The system according to Claim 1, wherein the candidates represented in the candidate server list are pseudo-randomly selected based on the weights.
19. A method for optimizing server selection for clients from among a plurality of servers in a packet communication network, the method comprising the steps of:
  - providing in response to a client request for a server address a candidate server list by a central server to a network node, other than the central server, adapted to interrogate individual servers represented in the candidate server list, the candidate server list including at least two server addresses selected based on weights corresponding to the candidate servers;
  - selecting a preferred server from candidate server list;
  - feeding back service metrics to the central server from the interrogated individual servers corresponding to service provided by the respective servers; and
  - updating the weights based on the service metric.
20. The method according to Claim 19 further including the step of forwarding the client request to the central server by a DNS server.
21. The method according to Claim 20, wherein the step of selecting a preferred server is executed by the DNS server.
22. The method according to Claim 21, further including, by the DNS server, the steps of:



informing the selected server that it has been selected to provide service to the requesting client; and

returning the address of the selected server to the client.

23. The method according to Claim 21, further including, by the DNS server, the step of returning to the requesting client the address of the first server from which the probe is returned.
24. The method according to Claim 23, wherein the DNS server transmits to the requesting client a redirection packet to cause the selected server to modify its respective service metric.
25. The method according to Claim 19, wherein the candidate server list includes extra, randomly selected servers selected from among the servers represented by the weights beyond the number servers addresses selected based on the weights.
26. The method according to Claim 25, wherein the extra, randomly selected servers are a fixed percentage beyond the number of server addresses selected based on the weights.
27. The method according to Claim 25, wherein the extra, randomly selected server addresses are a fixed number beyond the number of servers selected based on the weights.

28. The method according to Claim 19, wherein each server represented in the candidate server selection list is unique from each other server represented in the list.
29. The method according to Claim 19 wherein the feedback occurs according to at least one of the following: number of times selected, duration from last feedback, time of day, or requested event.
30. The method according to Claim 19 wherein the weights are based on bias factors to reduce convergence time, the bias factors including at least one of: number of times selected, moving average based on length of recording time, historical count information, time of day, time of year, calendar event, or geographical location.
31. The method according to Claim 19 wherein the weights sum to one.
32. The method according to Claim 19 wherein the central server includes unique vectors of server selection weights for subsets of clients.
33. The method according to Claim 19 wherein the central server includes multiple central servers organized as a distributed system.
34. The method according to Claim 19 wherein the step of selecting the preferred server comprises the step of interrogating the servers to measure at least one of the following: network performance between client and server, server congestion, or server load.

35. By a central server in a packet communication network, a method for providing a client with a list of possible optimal servers from among a plurality of servers also on the network, comprising the steps of:
- maintaining weights corresponding to a plurality of servers;
  - in response to receiving a client request from a client, selecting a candidate server list of at least two candidate servers from among the servers represented by the weights;
  - providing the candidate server list to a network node, other than a network node selecting the candidate server list, adapted to interrogate individual servers represented in the candidate server list; and
  - receiving feedback from the interrogated individual servers related to service by the servers for maintaining the weights.
36. The method according to Claim 35 further including:
- establishing a relationship with a DNS server to have the DNS server pass to the central server requests from clients for a server known by the central server.
37. The method according to Claim 35 wherein the candidate server list includes extra, randomly selected servers selected from among the servers represented by the weights beyond the randomly selected servers selected based on the weights.
38. The method according to Claim 35 wherein the weights are based on bias factors to reduce convergence time, the bias factors including at least one of:

number of times selected, moving average based on length of recording time, historical count information, time of day, time of year, calendar event, or geographical location.

39. The method according to Claim 35 wherein the central server includes unique vectors of weights for subsets of clients.

40. A computer program product comprising:

a computer readable medium for storing data; and

a set of computer program instructions embodied on the computer readable medium, including instructions to:

maintain weights related to service provided by servers;

in response to receiving a request from a client, select a candidate server list of at least two candidate servers from among the servers represented by the weights based on the weights;

provide the candidate server selection list to a network node, other than a network node executing the instructions to select the candidate server list, adapted to interrogate individual servers represented in the candidate server list; and

receive feedback from the interrogated individual servers to maintain the weights.

41. The computer program product according to Claim 40 further including instructions to:

establish a relationship with a DNS server to have the DNS server pass to the central server client requests for a server known by the central server.

42. The computer program product according to Claim 41 wherein the candidate server selection list includes extra, randomly selected servers selected from among the servers represented by the weights beyond the servers selected based on the weights.

43. The computer program product according to Claim 40 wherein the probabilities are based on bias factors to reduce conversion time, including at least one of:

number of times selected, moving average based on length of recording time, historical count information, time of day, time of year, calendar event, or geographical location.

44. The computer program product according to Claim 40 wherein the central server includes unique vectors of weights for subsets of clients.

45. An apparatus for providing a client with a list of possible optimal servers from among a plurality of servers also on the network, the apparatus comprising:

means for maintaining weights based on service by servers;

means for receiving a request from a client;

means for selecting a candidate server selection list of at least two candidate servers based on the weights from among the servers represented by the weights; and

means for providing the candidate server selection list to a network node other than a network node including the means for selecting the candidate server selection list, adapted to interrogate individual servers represented in the candidate server list; and

means for receiving feedback from the interrogated individual servers.

46. The apparatus according to Claim 45 further comprising means for establishing a relationship with a DNS server to have the DNS server pass requests from clients for a server to the means for receiving a request from a client.
47. An apparatus for providing a client with a list of possible optimal servers from among a plurality of servers also on the network, the apparatus comprising:
- one or more processors coupled to memory storing weights related to service provided by a plurality of servers, said one or more processors executing a computer program to:
- maintain the weights;
  - receive a request from a client;
  - in response to the request, select a candidate server list of at least two candidate servers from among the servers represented by the weights; and
  - an interface coupled to the one or more processors and the network (i) to provide the candidate server list to a network node, other than a network node with the computer program to select a candidate server list, adapted to interrogate individual servers represented in the candidate server list and (ii) to receive feedback from the interrogated individual servers.

48. The apparatus according to Claim 47 wherein the one or more processors establishes a relationship with a DNS server to have the DNS server pass to the one or more processors requests from clients for a server known by the one or more processors.
49. The apparatus according to Claim 47 wherein the candidate server list includes extra, randomly selected servers selected from among the servers represented by the weights beyond the servers selected in part based on the weights.
50. The apparatus according to Claim 47 wherein the probabilities are based on bias factors to reduce convergence time, including at least one of:
- number of times selected, moving average based on length of recording time,
  - historical count information, time of day, time of year, calendar event, or geographical location.
51. The apparatus according to Claim 47 wherein the memory includes unique vectors of weights for subsets of clients.
- 52-60. (Cancelled)
61. The system according to Claim 1 wherein the network node adapted to interrogate individual servers is a client.

62. The system according to Claim 1 wherein the network node adapted to interrogate individual servers is a DNS server.
63. The method according to Claim 19 wherein the network node adapted to interrogate individual servers is a client.
64. The system according to Claim 19 wherein the network node adapted to interrogate individual servers is a DNS server.
65. The method according to Claim 35 wherein the network node adapted to interrogate individual servers is a client.
66. The system according to Claim 35 wherein the network node adapted to interrogate individual servers is a DNS server.
67. The computer program product according to Claim 40 wherein the network node adapted to interrogate individual servers is a client.
68. The computer program product according to Claim 40 wherein the network node adapted to interrogate individual servers is a DNS server.
69. The apparatus according to Claim 45 wherein the network node adapted to interrogate individual servers is a client.



70. The apparatus according to Claim 45 wherein the network node adapted to interrogate individual servers is a DNS server.
71. The apparatus according to Claim 47 wherein the network node adapted to interrogate individual servers is a client.
72. The apparatus according to Claim 47 wherein the network node adapted to interrogate individual servers is a DNS server.
73. The apparatus according to Claim 47 wherein the candidate server list includes extra, randomly selected, candidate servers beyond the candidate servers selected based on the weights.
74. The apparatus according to Claim 47 wherein each candidate server in the candidate server list is unique from each other candidate server in the list.
75. The apparatus according to Claim 47 wherein a feedback occurs according to at least one of the following: number of times the respective server is selected, duration from last feedback, time of day, or requested event.
76. The apparatus according to Claim 47 wherein the weights are based on bias factors to reduce convergence time, the bias factors including at least one of: a number of times

selected, moving average based on a specified amount of time, historical count information, time of day, time of year, calendar event, or geographical location.

77. The apparatus according to Claim 47 wherein the weights sum to one.
78. The apparatus according to Claim 47 wherein the servers includes vectors of server selection weights for subsets of clients.
79. The apparatus according to Claim 47 wherein the servers includes multiple servers organized as a distributed system.
80. The apparatus according to Claim 47 wherein the client interrogates the candidate servers in the candidate server list to measure at least one of the following: network performance between the client and candidate server, server congestion, or server load.
81. The apparatus according to Claim 47 wherein the candidates represented in the candidate server list are pseudo-randomly selected based on the weights.
82. The apparatus according to Claim 73 wherein the extra, randomly selected, candidate servers are a fixed percentage beyond the number of servers selected based on the weights.

83. The apparatus according to Claim 73 wherein the extra, randomly selected, candidate servers are a fixed number beyond the number of server addresses selected based on the weights.
84. The system according to Claim 1 wherein the network node determines from an interrogation of the individual servers, represented in the candidate server list, by the issued probes and the received responses, which of the individual servers is to service the client request.
85. The method according to Claim 19 wherein selecting the preferred server from the candidate server list includes determining from an interrogation of the individual servers, represented in the candidate server list, by the issued probes and the received responses, which of the individual servers is to service the client request.
86. The method according to Claim 35 further comprising determining from an interrogation of the individual servers, represented in the candidate server list, by the issued probes and the received responses, which of the individual servers is to service the client request.
87. The computer program product according to Claim 40 further including instructions to determine from an interrogation of the individual servers represented in the candidate server list by the issued probes and the received responses, which of the individual servers is to service the client request.

88. The apparatus according to Claim 45 further comprising means for determining from an interrogation of the individual servers represented in the candidate server list by the issued probes and the received responses, which of the individual servers is to service the client request.
89. The apparatus according to Claim 47 wherein the one or more processors determines from an interrogation of the individual servers represented in the candidate server list by the issued probes and the received responses, which of the individual servers is to service the client request.

09/824,527

-27-

EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE